

#### ABSTRACT

There are provided an austenitic stainless steel having high stress corrosion crack resistance, characterized by containing, in percent by weight, 0.030% or less C, 0.1% or less Si, 2.0% or less Mn, 0.03% or less P, 0.002% or less S, 11 to 26% Ni, 17 to 30% Cr, 3% or less Mo, and 0.01% or less N, the balance substantially being Fe and unavoidable impurities; a manufacturing method for an austenitic stainless steel, characterized in that a billet consisting of the said austenitic stainless steel is subjected to solution heat treatment at a temperature of 1000 to 1150°C; and a pipe and a in-furnace structure for a nuclear reactor to which the said austenitic stainless steel is applied.